SITE HEALTH AND SAFETY PLAN

EMERGENCY AND RAPID RESPONSE SERVICES

Lowerline Street Removal, New Orleans, LA

PREPARED FOR

U.S. Environmental Protection Agency - Region 6
1445 Ross Ave., Suite 1200
Dallas, TX. 75202

Contract No: EP-S4-16-04
Task Order: 315
Project No: L6-315

MAY 16, 2019

Environmental Restoration LLC
1666 Fabick Drive
Fenton, MO 63026
www.erllc.com

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Lowerline Street Removal, New Orleans, LA.

I hereby certify that the enclosed Site Health and Safety Plan, shown and marked in this submittal, has been prepared in accordance with OSHA 29 CFR 1910 and 10 CFR 835 and is proposed to be incorporated with Contract No.: EP-S4-16-04 Task Order: 315. This Site Health and Safety Plan is submitted for Government review and acceptance.

Plan Review:

		281-844-9197
Rafa Aguero Response Manager Environmental Restoration, LLC.	Date	Phone Number

Plan Approval:

		720-440-3325
Gary Fanucchi Health and Safety Manager Environmental Restoration, LLC.	Date	Phone Number

Accepted as a submittal:

		214-665-6773
Greg Fife On Scene Coordinator USEPA Region 6	Date	Phone Number

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GLOSSARY OF ACRONYMS

AHA	Activity Hazard Analysis
ANSI	American National Standards Institute
COC	contaminant of concern
CFR	Code of Federal Regulations
CIH	Certified Industrial Hygienist
CPR	Cardiopulmonary Resuscitation
CRZ	Contamination Reduction Zone
CSP	Certified Safety Professional
dBA	decibel A-weighted
DEET	N, N-diethyl-m-toluamide
EMR	experience modification rate
EMT	emergency medical technician
ERRS	Emergency and Rapid Response Services
USEPA	United States Environmental Protection Agency
EZ	Exclusion Zone
HASP	Site Health and Safety Plan
HAZWOPER	Hazardous Waste Operation and Emergency Response
HIPO	high loss potential
HMIS	Hazardous Materials Identification System
HSO	Health and Safety Officer
HTRW	hazardous, toxic and radioactive waste
IDLH	immediately dangerous to life and health
kV	Kilovolt
MCL	Maximum Contaminant Level
µg/kg	micrograms per kilogram
mg/kg	milligrams per kilogram
NFPA	National Fire Prevention Association
NIOSH	National Institute of Occupational, Safety and Health
NPL	National Priority List
O&M	Operations and Maintenance
OSC	On Scene Coordinator - USEPA
OSHA	Occupational Safety and Health Administration
PHSM	Project Health and Safety Manager
PM	Project Manager
POL	petroleum, oils, and lubricants
PPE	personal protective equipment
RIR	recordable incident rate
RM	Response Manger
SCBA	self-contained breathing apparatus
SDS	Safety Data Sheet
SOP	Standard Operating Procedure
SOW	Scope of Work
START	Superfund Technical Assistance and Response Team
WNV	West Nile Virus

1.0 INTRODUCTION AND SITE ENTRY REQUIREMENTS

This document describes the health and safety guidelines developed for the Lowerline Street Project, to protect on-site personnel, visitors, and the public from physical harm and exposure to hazardous materials or wastes. The procedures and guidelines contained herein were based upon the best available information at the time of the plan's preparation. Specific requirements will be revised when new information is received or conditions change. A written amendment will document all changes made to the plan. Any amendments to this plan will be included in Attachment A. Where appropriate, specific OSHA standards or other guidance will be cited and applied.

All work practices and procedures implemented on site must be designated to minimize worker contact with hazardous materials and to reduce the possibility of physical injury. All work will be performed in accordance with applicable Federal 29 CFR 1910 and 1926 health and safety regulations, including the Federal 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response regulation and 10 CFR 835 Radiation Worker standards.

1.1 Daily Safety Meetings

Daily safety meetings will be held at the start of each shift to ensure that all personnel understand site conditions and hazards, applicable standard operating procedures, personal protective equipment requirements and to address worker health and safety concerns.

1.2 Site Specific Training and Acknowledgement

The Response Manager shall be responsible for informing all individuals assigned to this project of the contents of this plan and ensuring that each person signs the Site Specific Training Record in Attachment Z. By signing the Site Specific Training Record, individuals acknowledge receipt of this training and that they recognize the potential hazards present on-site and the policies and procedures required to reduce the risk of exposure or adverse effects associated with these hazards.

1.3 Key Personnel

Key Personnel	
Names and Titles	**Contact Information**
Greg Fife – USEPA Region 6, OSC	214-665-6773 (Mobile) Email: **fife.greg@epa.gov**
Rafa Aguero– ER Response Manager	281-844-9197 (Mobile) Email: **r.aguero@erllc.com**
Rafa Aguero– ER HSO	281-844-9197 (Mobile) Email: **r.aguero@erllc.com**
Gary Fanucchi – ER Project HS Manager	720-440-3325 (Mobile) Email: **g.fanucchi@erllc.com**
Subcontractors	
Company	**Scope of Services**
TBD	TBD

2.0 ROLES AND RESPONSIBILITIES

2.1 Project Manager (PM): Rafa Aguero

The Project Manager, as the field representative for ER and its subcontractors, has the responsibility for implementing the Site Health and Safety Plan (HASP). The PM shall manage the project and ensure all health and safety requirements are met. The PM is the Site Health and Safety Officer for this project. Therefore, the PM is responsible for the duties listed in Section 2.2.

2.2 Site Health and Safety Officer (HSO): Rafa Aguero

The ER Site Health and Safety Officer is assigned to the site on a full-time basis with functional responsibility for assisting the RM with implementing the HASP.

Specific Duties Include:

a. Assist PM in providing a safe and healthful work environment.
b. Supervise confined space entries.
c. Assist PM in reporting and investigating all incidents.
d. Ensure proper decontamination of personnel and equipment is accomplished.
e. Ensure that air monitoring equipment is calibrated and operational.
f. Conduct personal air monitoring as required.
g. Perform respirator fit tests, as necessary.
h. Inventory and inspect PPE prior to personnel entries into exclusion zone.
i. Prepare summary letter of personal air sampling results.
j. Ensure proper personal protective equipment is being utilized.
k. Assist RM in obtaining required personnel training and medical records.
l. Inspect first aid kits and fire extinguishers.

2.3 Project Health and Safety Manager (PHSM): Gary Fanucchi

The Project Health and Safety Manager provides support and leadership to the project to protect the health and safety of the employees and the public. This includes, but is not limited to, communicating on safety and health issues, providing training, establishing special hazard control programs, assisting or conducting incident investigations, making inspections and surveys, evaluating or developing new protective measures, accumulating and distributing incident statistics, and identifying requirements of safety and health laws and regulations.

2.4 U.S. EPA On-Scene Coordinator (OSC): Greg Fife

The OSC has overall project authority and directs the project manager regarding the tasks required to meet project objectives. The OSC has the authority to stop work and initiate corrective actions should there be a reason to do so.

2.5 Other

Any persons who observe unsafe work practices shall immediately report observations/concerns to appropriate key personnel listed above. All site personnel have the authority to stop work due to an imminent hazard or unsafe practice.

3.0 SITE BACKGROUND AND SCOPE OF WORK

3.1 Site Background

Lowerline is a street in New Orleans. As a result of a radiation sweep conducted by the Department of Energy, a hotspot was found in the Street. Subsequent investigations and excavations have determined that the material is Radium-226. It was found in a strata of soil and oyster shells beginning approximately 18 inches below surface level and extending to approximately 30 inches below surface level. Two layers of pavement sit above the level of contamination. The contamination was mixed in with the original street surface of oyster shells and the soil below. Records indicate that the paving on top of the oyster shell road was conducted in the 1940s or 50s. The Radium-226 was not in a container or capsule, just mixed in with the shells and soil.

The Street is located in a residential area with supporting businesses. The Street has several vacant lots or deserted residences. Xavier University is two blocks away and many of the students utilize the surrounding street for parking.

3.2 Scope of Work for ER

- Coordinate with City of New Orleans in regard to specifications of excavation and requirements to facilitate repaving.
- Coordinate the Traffic Control Plan.
- Conduct a utility location survey, such as Louisiana 811, Call Before You Dig.
- Coordinate with EPA and START to identify expected locations of excavations.
- During excavation, remove and segregate clean overburden in order to minimize the amount of material requiring disposal at a radiation disposal facility.
- Arrange for the disposal of the radiation contaminated material, including the profiling, acceptance and disposal.
- Arrange for transportation of the radiation contaminated material.
- Coordinate with the City and Louisiana Department of Environmental Quality.
- Arrange for the disposition of the clean overburden and any other material generated by the excavation that is not contaminated to the extent requiring radiation disposal.
- Provide security for the jobsite during periods of operation. This includes security during the day when activity is going on.
- Coordinate with EPA and START on the Post-removal scanning to verify cleanup or identify additional areas requiring excavation.
- Coordinate with the City as to the actual restoration of the street.
- Additional work may be required to facilitate residents' entry and egress.

4.0 HAZARD ASSESSMENT

This section is to be addressed in the daily tool box safety meeting as each task is to be initiated. Each Activity Hazard Analysis (AHA) is designed to develop awareness to chemical and physical hazards specific to each task. It would be impractical to repeat in complete detail each control measure and SOP for each job task. Sources, Hazards and Control Measures will be addressed for each job task.

Specific work tasks with unique hazards and/or PPE requirements must be evaluated or reevaluated prior to beginning work. This task review will be led by the Project Health and Safety Manager and the HSO, and will include knowledgeable individuals such as the worker(s) and the supervisor. PPE requirements, based on this assessment, will be included in Section 6 of the HASP or in the AHA for the specific task. All workers must be trained in the requirements of the HASP and the applicable AHAs prior to beginning work. The required PPE may be changed by the HSO, based on the results of additional air monitoring, or on task-specific needs. Downgrades will require the approval of the Project Health and Safety Manager unless otherwise permissible by the HASP.

The following section outlines the AHAs, Referenced Standard Operations Procedures (SOPs) and Chemical Hazards associated with this project. Applicable SOPs are available from ER's Health and Safety Database. AHAs will be developed for each of the SOW activities listed in Section 3.2 and submitted prior to the start of field work.

The AHAs should be revised for site-specific activities and review with the work crew before commencing any activity.

The following table lists ER health and safety SOPs that are applicable to this project.

Referenced SOPs:	
ER SOPs applicable to this project or task order:	
HS-01 Air Monitoring and Sampling HS-02 Blood Borne Pathogens Exposure Control Plan HS-04 Flammable Liquid Transfer (Bonding and Grounding) HS-08 Decontamination Measures HS-10 Motor Vehicle Operation HS-12 Electrical Safety - General HS-14 Fall Protection HS-15 Hazard Communication HS-16 Hearing Conservation HS-17 Heat Stress	HS-18 Heavy Equipment Operation HS-24 Personal Protective Equipment HS-25 Radiation Safety HS-26 Respiratory Protection HS-30 Traffic Control Safety HS-38 Fire Prevention Protection HS-49 Tool Safety and Inspection HS-50 First Aid HS-51 Incident Reporting and Investigation HS-52 General Waste Management HS-53 Spill Prevention Response
UXO known or suspected to present? Yes ❑ No ☑	UXO support and plans provided Yes ❑ No ☑
Lifts Yes ☑ No ❑	
Items to be lifted: Building components	Critical ☑ Ordinary ❑
Excavations Yes ☑ No ❑	

4.1 Chemical Hazards

Site Contaminants/Chemicals of Concern					
Chemical	**Media**	**PEL**	**TLV**	**Route of Entry**	**Symptoms Acute/Chronic**
Radium 226, 228	Soil	N/A	N/A	Inhalation Ingestion	The severity of ARS symptoms depends on the level of exposure. A radiation dose as low as 0.35 Gy could feel a bit like you have the flu—expect nausea and vomiting, headaches, fatigue, and fever. If the body is exposed to a higher dose, somewhere between 1-4 Gy, blood cells begin to die

The above listing should not be taken as a complete assessment of the hazards posed by materials at the Standard Products Site. Personnel must be alert for changes in conditions that may indicate different contaminants such as unusual smells, soil discoloration, stinging, burning eyes, nose and throat, or skin irritation. Symptoms must be immediately reported to the site supervisor. See Attachment C for Chemical Hazard Information and SDSs.

4.2 Task Specific Hazards and Controls

This section is to be addressed in the daily tool box safety meeting as each task is to be attempted. Each Task-Specific Safety Assessment is designed to develop awareness to chemical and physical hazards specific to each task. It would be impractical to repeat in complete detail each control measure and SOP for each job task. Sources, Hazards and Control Measures will be addressed for each job task. See Attachment D.

4.3 Physical Hazards

Physical/Environmental Hazard Analysis		
Hazard	**Pre Planning to Control Hazard**	**Active Control Measures**
`	1. Locate and mark existing energized lines. 2. De-energize lines if necessary to perform work safely. 3. All electrical circuits will be grounded. 4. All 120 volt single phase which are not a part of the permanent wiring will have a ground-fault interrupter in place. 5. Temporary wiring will be guarded, buried or isolated by elevation to prevent accidental contact by personnel or equipment. 6. Evaluate potential for high moisture/standing water areas and define special electrical wiring needs-typically requirement for low voltage lighting systems.	1. Utilize Qualified Electrical Contractor for any new or temporary electrical construction. 2. Ensure electrical equipment/material meet all local, state and federal code and specifications 3. Use GFCI for all power tool usage.
Ergonomic	1. All operations evaluated for ergonomic impact. 2. Procedures written to define limits of lifting, pulling, etc. 3. Procedures to define how personnel will utilize proper ergonomic concepts and utilize mechanical material handling equipment. 4. Necessary mechanical material handling equipment specified and ordered for project.	1. Proper body mechanics techniques stressed and enforced on a daily basis. 2. Mechanical handling equipment maintained and utilized. 3. Proper body mechanics stressed in scheduled safety meetings. 4. Injuries reported and medically treated if in doubt about severity. 5. Operations changed as necessary based on injury experience or potential.
Existing Site Topography	1. Survey site prior to layout. Identify areas unsafe for personnel or equipment due to physical conditions. 2. Identify/locate existing utilities. 3. Determine impact of site operations on surrounding properties, communities, etc. 4. Identify mechanized equipment routes both on site and onto and off the site. 5. Layout site into exclusion and contamination reduction zones based on initial site evaluation.	1. Awareness to work environment - regular inspection/audits to identify changing conditions. 2. Shut down operations when unknown conditions encountered.
Fires & Explosions	1. Evaluate all operations for fire and explosion potential. 2. Define specific procedures for unique operations presenting unusual hazard such as flammable tank demolition. 3. Ensure that properly trained personnel and specialized equipment is available. 4. Define requirements for handling and storage of flammable liquids on site, need for hot work permits and procedures to follow in the event of fire or explosion. 5. Define the type and quantity of fire suppression equipment needed on site. 6. Coordinate which local fire fighting agencies to discuss unique fire hazards, hazardous materials, etc. 7. Ensure site operations comply with 29CFR 1910.157(g).	1. Inspect fire suppression equipment on a regular basis. 2. Store flammables away from oxidizers and corrosives. 3. Utilize Hot Work Permit for all hot work on-site. 4. Follow any site specific procedures regarding work around flammables. 5. Review and practice contingency plans. 6. Discuss on regular basis at scheduled safety meetings.
Flammable Vapor and Gases	1. Evaluate site to determine sources of likely flammable gas or vapor generation. 2. Develop specific procedures to be followed in the event of exposure to flammables. 3. Specify specialized equipment needs for inerting flammable atmospheres, ventilating spaces and monitoring flammable vapor concentrations. 4. Define requirements for intrinsically safe equipment. 5. Develop contingency plan to follow in the event of fire or explosion.	1. Calibrated monitoring equipment available and utilized by trained personnel whenever working where flammable gas or vapor is present. 2. Monitoring performed at regular frequency and in all areas where vapor could generate or pool. 3. Equipment and operations shut down when threshold levels are exceeded. 4. Contingency plans reviewed regularly by all involved personnel. 5. Work areas are carefully inspected to look for possible ignition sources. Sources are removed. 6. Operations shut down if specific task procedures can't be followed to the letter.
Heavy Equipment Operation	1. Define equipment routes and traffic patterns for site. 2. Insure that operators are properly trained on equipment operation for all equipment required on project.	1. Equipment inspected as required. 2. Equipment repaired or taken out of service.

Physical/Environmental Hazard Analysis		
Hazard	**Pre Planning to Control Hazard**	**Active Control Measures**
	3. Define safety equipment requirements, including back up alarm and roll over, for all equipment on site. 4. Define equipment routes and traffic patterns for site. 5. Implement SOP of requiring operators to safety inspect equipment on a daily basis in accordance with manufacturer requirements. 6. Evaluate project requirements to ensure that equipment of adequate capacity is specified.	3. Ground spotters are assigned to work with equipment operators. 4. Utilize standard hand signals and communication protocols. 5. Personnel wear the proper PPE; utilize hearing protection, gloves for handling rigging, etc. 6. Equipment safety procedures discussed at daily scheduled safety meetings. 7. Personnel do not exceed lifting capacities, load limits, etc. for equipment in question. 8. Personnel follow basic SOP's which prohibit passengers on equipment, activating brakes and grounding buckets, securing loads prior to movement, etc.
Illumination	1. Evaluate all operations and work areas to determine lighting requirements. 2. Specify specialized lighting requirements including explosion proof, intrinsically safe, lighting needs. 3. Determine if nighttime outdoor operations are necessary. 4. Evaluate tasks to be performed and number of light plants necessary to allow operations. 5. Ascertain if outdoor lighting from nighttime operations will have an impact on surrounding communities.	1. Inspect specialized equipment and discard or replace as needed. 2. Add additional lighting to areas with lighting deficiencies. 3. Inspect drop cords and portable lights on regular basis. Replace or repair as necessary.
Noise	1. Local community noise standards examined. 2. Expected loud operations evaluated to determine compliance with community standards. 3. Loud operations scheduled for approved time periods. 4. Noise level standards established for equipment brought onto site. 5. Hearing protection requirements defined for personnel expected to have excessive exposures.	1. Personnel receive annual audiogram. 2. Personnel required to wear hearing protection. 3. Routine noise level monitoring and dosimetry performed. 4. Defective equipment repaired as needed. 5. Ongoing hearing conservation education promoted at scheduled safety meetings. 6. Medical evaluation following noise (impact) exposure if symptoms present themselves.
Personal Injuries	1. Site operations will be evaluated for exposures with serious injury potential such as falling objects, pinch points, flying objects, falls from elevated surfaces, etc. 2. A written Fall Prevention Program will be developed if workers will be required to work at heights greater than 6 feet from unguarded work locations. 3. PPE requirements will be based on potential for injury.	1. Personnel will wear required PPE. 2. Specialized equipment such as rope grabs, winches, etc. will be inspected prior to each use. 3. Defective equipment will be immediately replaced. 4. All injury and near miss incidents will be reported to the HSO. 5. First aid/CPR trained person on site at all times. 6. First aid on site. 7. Transport for medical care if necessary.
Small Equipment Usage	1. Site operations will be evaluated to determine need for specialized intrinsically safe, explosion-proof and UL approved equipment and instruments. 2. Implement requirement for G.F.I., double insulated tool usage, or assured grounding program in all outdoor operations, will be utilized. 3. Specify equipment needs to ensure that equipment used only for the purpose for which it is designed and to prevent abuse or misuse of the equipment. 4. Specify requirements for the inspections and maintenance of specialized equipment. 5. Specify that all equipment utilized on the project meets all OSHA requirements.	1. Inspect each tool prior to each use. 2. Ensure all guards are in use and properly positioned. 3. Ensure item being worked on is properly braced if necessary. 4. Get help when appropriate to hold or brace item being worked on. 5. Wear leather or other appropriate gloves in addition to level C PPE.
Weather Conditions	1. Evaluate prevailing weather conditions for the site. 2. Contingency plans developed for likely severe weather conditions such as tornado, and extreme thunderstorm. 3. Provide for daily weather forecast service in extreme weather areas.	1. Employees trained in contingency plan for severe weather conditions. 2. Emergency water sources inspected regularly in cold areas.

Physical/Environmental Hazard Analysis		
Hazard	**Pre Planning to Control Hazard**	**Active Control Measures**
	4. Plan to weatherize safety systems, such as showers and eye washes that would be impacted by extreme cold weather. 5. Order necessary specialized cold weather clothing. 6. Grounding and bonding requirements defined for thunderstorm areas. 7. Sheltered air conditioned break areas provided for extreme hot and cold weather zones.	3. Weather service contacted regularly during storm conditions. 4. Supervisory personnel cease operations during extreme storm conditions (i.e., thunderstorms). 5. Personnel evacuate to safe assembly area.
Heat Stress	1. Anticipate possible high temperatures (summer months). 2. Be aware of heat stress symptoms, quit sweating, pale, clammy skin, dizziness	1. Cool break area. 2. Drink water. 3. Buddy system/ awareness 4. First aid on site. 5. Medical care if symptoms persist.
Cold Stress	1. Anticipate possible low temperatures (winter months). 2. Remember the temperature does not have to be below freezing to have a cold stress situation.	1. Warm break area. 2. Warm decaffeinated drinks. 3. Buddy system/ awareness. 4. First aid on site. 5. Medical care if symptoms persist

5.0 Training Requirements

This section describes ER's project training requirements and site visitor policy. Training of all personnel shall be in accordance with OSHA 29 CFR 1910.120 and the National Fire Protection Association (NFPA) standards.

5.1 Project Training Requirements

The training listed in Table 5-1 will be provided to project participants as noted. All required training will be documented and this documentation maintained onsite.

Project Training Requirements:		
Topic	**Description**	**Personnel**
General Training		
Site Safety and Health Plan	Site-specific hazards and control requirements, before commencement of field work. Includes training in proper use and care of PPE.	All project personnel
Activity Hazard Analysis	Activity-specific hazards, controls and training requirements for a specific phase or activity, prior to commencement of activity	Workers, supervisors and oversight personnel engaged in the activity
Daily Safety Briefing	In addition to plan-of-the-day and daily hazard reminders, often used to cover a specific topic; provided refresher training on various issues; or changes in hazards, controls or procedures.	All field workers, supervisors and field oversight personnel
Emergency Action Plan	Roles, responsibilities, recognition of emergency conditions, reporting and notification, evacuation and other procedures.	All project personnel, with detailed information on procedures for workers with special responsibilities
OSHA 40-Hour Hazardous Waste Operation (HAZWOPER) Training	General hazards and controls for hazardous waste activities at remediation sites, prior to performing work in an exclusion zone.	General site workers, supervisors, oversight personnel on HAZWOPER sites
OSHA 8-Hour Supervisor	Managing HAZWOPER work activities	Supervisors and management support staff on HAZWOPER sites
OSHA 8-Hour Refresher	Current annual refresher for HAZWOPER sites.	Workers, supervisors and oversight personnel engaged in the activity
Hazard Communication	Requirements for MSDS, labels; hazards of site materials and controls; location of and access to inventories and MSDS.	All project personnel potentially exposed to hazardous materials
Fire Extinguisher	General education on selection, distribution, and proper use of fire extinguishers.	All project personnel

Project Training Requirements:		
Topic	**Description**	**Personnel**
Special Training		
Radiation Awareness per 10 CFR 20 and 29 CFR 1926.53	Hazards and controls for radiation contaminated materials/debris prior to performing work in exclusion zone	All project personnel potentially exposed to radiation contaminated materials/debris
First aid/ Cardiopulmonary Resuscitation (CPR)	Red Cross, National Safety Council or other authorized course, with current refresher	At least 2 project personnel
Fall Protection	Fall (from elevation) hazards, fall protection techniques, especially proper use of personal fall arrest systems and rescue procedures.	Task-specific, workers exposed to fall hazards.
Lockout/Tagout	Site-specific energy control and verification procedures.	Authorized personnel working on de-energized systems, and affected employees whose work may be impacted by a lockout/tagout situation.
Other Heavy Equipment operations	Qualified by Construction Manager, Superintendent or Equipment Supervisor as documented on ER Equipment Operator Qualifications Form	Equipment Operators
Power tools (e.g. chain saws, chippers, powder-actuated tools, compressed air systems)	Hazards and proper use and maintenance as described in operations manual. Powder-operated tool users certified by manufacturer.	Tool users

5.2 Visitor Indoctrination Policy

All site visitors will be required to review the daily tailgate safety issues and sign the visitor log. At a minimum, all visitors must be informed of the anticipated hazards and PPE requirements, designated work zones, escort procedures, and emergency procedures.

6.0 PERSONAL PROTECTIVE EQUIPMENT

The following is a brief description of the personal protective equipment which may be required during various phases of the project. The U.S. EPA terminology for protective equipment will be used; Levels A, B, C and D.

Respiratory protective equipment shall be NIOSH-approved and use shall conform to OSHA 29 CFR Part 1910.134 Requirements. Each employer shall maintain a written respirator program detailing selection, use, cleaning, maintenance and storage of respiratory protective equipment. The written Respirator Program will be maintained at the local and regional offices.

6.1 Level A Protection Shall Be Used When: Not Anticipated for this project

- The extremely hazardous substance requires the highest level of protection for skin, eyes and the respiratory system;
- Substances with a high degree of hazard to the skin are known or suspected;
- Chemical concentrations are known to be above IDLH levels; or,
- Biological hazards requiring Level A are known or suspected.

Level B Protective Equipment at a Minimum Shall Consist of: Not anticipated for those project

Supplied Air Respirator	NIOSH approved Fullface
Cartridges (type)	N/A
Chemical Resistant/Protective Coveralls	Saranex (Acid Suit for Acids) or PolyTyvek
Gloves	Nitrile inner/outer
Safety shoes/Boots (type)	Chemical Resistant Steel Toed
Hard Hat	ANSI approved

Other (List ____)_____	N/A
Modifications:	Use leather gloves when handling sharp objects.

6.3 Level C Protection Shall Be Used When:

- The same level of skin protection as Level B, but a lower level of respiratory protection is required;
- The types of air contaminants have been identified, concentrations measured, and an air-purifying respirator is available that can remove contaminants; or,
- The substance has adequate warning properties and all criteria for the use of APR respirators has been met

Level C Protective Equipment at a Minimum Shall Consist of:

Air Purifying Respirator	NIOSH approved Full-face
Cartridges	P100
Chemical Resistant/Protective Coveralls	Tyvek inner layer with a particulate barrier outer
Gloves	Nitrile inner/leather outer*
Safety shoes/Boots	Chemical Resistant ASTM approved
Hard Hat	ANSI approved
Respiratory Inserts	As required
High Visibility Garment	ANSI Type 2 high-visibility
Modifications:	* Cut resistant gloves will be used when handling metal and other sharp objects.

6.4 Mod Level D Protection Shall Be Used When:

- The atmosphere is demonstrated to be within OSHA permissible limits
- Work functions preclude splashes, immersion or the potential for unexpected inhalation of, or contact with, hazardous concentrations of harmful chemicals.

Mod Level D Protection Equipment at a Minimum Shall Consist of:

Chemical Resistant/Protective Coveralls	Poly-coated Tyvek or Particulate Barrier or equivalent for both
Safety Shoes/Boots	ASTM approved
Boot Covers (booties)	Latex
Work Gloves	Cotton or Leather*
Hard Hat	ANSI approved
High Visibility Garment	ANSI Type 2 high-visibility
Face Shield	As necessary
Safety Glasses	ANSI approved
Modifications:	* Cut resistant gloves will be used when handling metal and other sharp objects.

6.5 Level D Protection Shall Be Used When:

- The atmosphere is demonstrated to be below OSHA permissible exposure limits
- Work functions preclude splashes, immersion or the potential for unexpected inhalation of, or contact with, hazardous concentrations of harmful chemicals.

Level D Protection Equipment at a Minimum Shall Consist of:

Standard Work Clothing	Long pants/sleeved shirt
Rain Suit	As required

Safety Shoes/Boots	ASTM approved
Boot Covers (booties)	During muddy conditions as necessary
Work Gloves	Cotton or Leather*
Hard Hat	ANSI approved
Safety Glasses	ANSI approved
High Visibility Garment	ANSI Type 2 high-visibility
Modifications:	* Cut resistant gloves will be used when handling metal and other sharp objects.

6.6 Decisions to Upgrade/Downgrade PPE

All decisions to downgrade from Level B to C or D must be accompanied by air monitoring results. The Regional Safety Managers must be advised of on-site decisions to downgrade. All decisions must be documented with an Addendum to the Plan.

The following conditions will necessitate reevaluation of PPE use.

- commencement of a new work not previously identified
- change of job tasks during a work phase
- change of season/weather
- contaminants other than those identified in Safety Plan
- change in ambient levels of contaminants
- change in work which affects degree of chemical contact

6.7 Project Personal Protective Equipment Requirements

Project Personal Protective Equipment Requirements:							
Activity	**Respiratory Protection**	**Head Protection**	**Body Protection**	**Hand Protection**	**Eye/Face Protection**	**Foot Protection**	**Hearing Protection**
Site Mobilization (Level D)	None	ANSI-approved hardhat	None	cut resistant	ANSI-approved safety glasses	ASTM-approved safety boots	Hearing protection for levels > 85 dBs
Excavate impacted soil (Level C)	Full-face Air-Purifying Respirator (APR) with P100 cartridges	ANSI-approved hardhat	Particulate barrier disposable Coverall	Nitrile inner/outer cut resistant	NIOSH-approved Full face respirator	ASTM-approved safety boots w/ boot covers	Hearing protection for levels > 85 dBs
Stockpile impacted soil (Level C)	Full-face Air-Purifying Respirator (APR) with P100 cartridges	ANSI-approved hardhat	Particulate barrier disposable Coverall	Nitrile inner/outer cut resistant	NIOSH-approved Full face respirator	ASTM-approved safety boots w/ boot covers	Hearing protection for levels > 85 dBs
Load out impacted soil (Level C)	Full-face Air-Purifying Respirator (APR) with P100 cartridges	ANSI-approved hardhat	Particulate barrier disposable Coverall	Nitrile inner/outer cut resistant	NIOSH-approved Full face respirator	ASTM-approved safety boots w/ boot covers	Hearing protection for levels > 85 dBs
Backfill, restoration, secure site (Level D)	None	ANSI-approved hardhat	None	cut resistant	ANSI-approved safety glasses	ASTM-approved safety boots	Hearing protection for levels > 85 dBs

Note: Inspection and care of PPE are covered in the ER Corporate SOP HS-24.

6.8 Respiratory Protection Program

ER shall implement HS-26 Respiratory Protection Program for its employees and subcontractors and train them on its contents. The program will be administered by the HSO.

Respiratory protective equipment shall be NIOSH-approved and use shall conform to OSHA 29 CFR Part 1910.134 Requirements. ER and subcontractors shall maintain a written respirator program detailing selection, use, cleaning, maintenance and storage of respiratory protective equipment.

7.0 MEDICAL MONITORING REQUIREMENTS

7.1 Pre-Employment Medical Examination

a. Pre-employment medical examinations are required for persons working at hazardous waste sites.
b. All examinations must be completed and documented prior to assignment to this site.
c. All examinations will be conducted following parameters established by WorkCare™.

7.2 Site Specific Medical Examination

a. N/A for this project

7.3 Annual Medical Examination

The medical examination must have been within a 12-month period prior to on-site activity, and repeated annually.

7.4 Suspected Exposure Medical Examination

a. Following any suspected uncontrolled exposure to site contaminants, personnel should be scheduled for a special medical examination.
b. The medical examination will be specific for the contaminants and the associated target organs or physiological system.
c. Questions regarding the type of medical examination can be directed to ER's Vice President, Health and Safety.

7.5 Contractor Physical Examination Requirements

All subcontractors entering the contamination reduction or exclusion zone will have adequate medical surveillance satisfying 29 CFR 1910.120.10 (f).

8.0 HEALTH AND HAZARD MONITORING

According to 29 CFR 1910.120 (h) Air Monitoring shall be used to identify and quantify airborne levels of hazardous substances and health hazards in order to determine the appropriate level of employee protection needed on-site. USEPA START contractor shall be tasked for all air monitoring on this project. ER will ensure they maintain an air monitoring program to evaluate concentrations of dust and specific radiation groups in ambient air during work activities.

Both area and personal monitoring will be conducted to document potential exposures to hazardous constituents, as well as to evaluate the adequacy of the Personal Protection Equipment (PPE) program.

8.1 Routine Air Monitoring Requirements

- Upon initial entry to rule out IDLH conditions
- When the possibility of an IDLH condition or flammable atmosphere has developed

- When work begins on a different portion of the site
- Contaminants other than those previously identified are being handled
- A different type of operation is initiated
- Employees are handling leaking drums or containers or working in areas with obvious liquid contamination
- During confined space work

Air monitoring will consist at a minimum of the criteria listed below. All air monitoring data will be documented and available in the command post site files for review by all interested persons. Air monitoring instruments will be calibrated and maintained in accordance with the manufacturer's specifications. Calibration and maintenance performed will be entered in the site log and/or instrument log book.

8.2 Site Specific Air Monitoring Requirements

Health Hazard Monitoring:					
Real Time (Air, noise, heat, radiation, light)					
Activity	**Target Analyte**	**Instrument**	**Frequency**	**Action Levels**	**Actions/Upgrade and Rationale**
All site Activities	RAD	TLD Film Badges Ludlum activity meter scan	Daily When employees leave work areas	Two to three times background	Wash and rinse affected areas
Site wide	**Temperature Extremes Heat /Cold	Thermometer In conjunction with web site [HYPERLINK "http://www.intellicast.com"] for heat index, rel hum%	Observe workers for signs of heat / cold stress and implement physiological monitoring if warranted. **Every 2 hours** **Every 60 minutes** Every 30 minutes	80-90 °F HEAT INDEX 40 °F Follow HS-05 Cold Stress **90 -105 °F HEAT INDEX** **105 – 130 °F HEAT INDEX** >130 °F HEAT INDEX	Implement work rest schedule per HS-05, HS-17

8.3 Integrated Personnel Exposure Monitoring:

Thermo Luminescent Dosimeters (TLD) badges will be used by all on-site employees for the duration of the project. Film badge development will be performed by an accredited laboratory on a monthly basis or sooner based on project schedule.

Rad particle scans will be performed as employees leave work areas after decontamination, to insure all particles are removed from clothing.

9.0 SITE CONTROL AND GENERAL FIELD SAFETY RULES

9.1 Work Zones

The primary purpose for site controls is to establish the hazardous area perimeter, to reduce migration of contaminants into clean areas and to prevent access or exposure to hazardous materials by unauthorized persons. At the end of each workday, the site should be secured or guarded, to prevent unauthorized entry. Site work zones will include:

Support Zone (SZ)

The uncontaminated Support Zone (SZ) will be the area outside the exclusion and decontamination zones and within the geographic perimeters of the site. This area is used for staging of materials, parking of vehicles, office and laboratory facilities, sanitation facilities, and receipt of deliveries. Personnel entering this zone may include delivery personnel, visitors, security guards, etc., who will not necessarily be permitted in the exclusion zone. All personnel arriving in the support zone will upon arrival, report to the command post and sign the site entry/exit log. There will be one controlled entry/exit point from the clean zone to the decontamination zone.

1) Location of Support Zone: Area immediately outside of excavation areas, and equipment staging

Contamination Reduction Zone (CRZ)

The contamination reduction zone will provide a location for removal of contaminated personal protective equipment and final decontamination of personnel and equipment. All personnel and equipment should exit via the decon area. A separate CRZ area will be established for heavy equipment. Entry and Exit into work zones will be documented on a sign in/out sheet along with vitals (blood pressure, pulse, temp).

1) The CRZ is a buffer zone between contaminated and clean areas and will be identified by banner tape or orange construction/barricade fencing.
2) Decon line is located: Just outside of excavation area, and will contain PPE waste containers and radiation scanner

Exclusion Zone (EZ)

The exclusion zone will be the contaminated area within barricades with controlled access. Entry to and exit from this zone will be made through a designated point at the CRZ. Appropriate warning signs to identify the EZ should be posted (i.e. "DANGER - AUTHORIZED PERSONNEL ONLY", "PROTECTIVE EQUIPMENT REQUIRED BEYOND THIS POINT", etc.) Exit from the EZ must be accompanied by personnel and equipment decontamination as described in Section 10.0.

1) Will be identified by red banner guard or signs.
2) General Safety Rules for EZ
    a. wear the appropriate level of PPE defined in plan
    b. do not remove any PPE
    c. no smoking, eating or drinking
    d. no horseplay
    e. no matches or lighters
    f. implement the communication and line of sight system

9.2 General Field Safety Rules

- Horseplay is not permitted at any time.
- All visitors must be sent to the command post.
- It is ER policy to practice administrative hazard control for all site areas by restricting entrance to exclusion zones to essential personnel and by using operational SOPs.
- Whenever possible, avoid contact with contaminated (or potentially contaminated) surfaces. Walk around (not through) puddles and discolored surfaces. Do not kneel on the ground or set equipment on the ground. Stay away from any waste containers unless necessary. Protect equipment from contamination by bagging.
- Cell phone use not allowed in EZ.

- Cell phone use not allowed while operating equipment or motor vehicles.
- Eating, drinking, or smoking is permitted only in designated areas in the SZ.
- Hands and face must be thoroughly washed upon leaving the decon area.
- Beards or other facial hair that interferes with respirator fit will preclude wearing a respirator.
- All equipment must be decontaminated or discarded upon exit from the EZ.
- All personnel exiting the exclusion zone must go through the decontamination procedures described in Section 10.0.
- Safety Equipment described in Section 6.0 will be required for all field personnel.
- Personnel will only travel in vehicles where individual seats for each occupant are provided.
- Seat belts will be worn as required.
- Fire extinguishers will be available on site and in all areas with increased fire danger such as the refueling area.
- A minimum of two personnel will always be on site whenever heavy equipment is operated.
- Only necessary personnel need to be on or around heavy equipment.
- Employees will not interfere with or tamper in any way with air monitoring equipment.
- Backhoes or other equipment with booms shall not be operated within 10 feet of any electrical conductor

Minimum Clearance from Energized Overhead Electric Lines

NOMINAL SYSTEM VOLTAGE	MINIMUM REQUIRED CLEARANCE
0-50 kV	10 feet
51-100 kV	12 feet
101-200 kV	15 feet
201-300 kV	20 feet
301-500 kV	25 feet
501-750 kV	35 feet
751-1000 kV	45 feet

- Visitor log will be maintained at the command post or with the security guard. All personnel coming on site will sign in and out on a daily basis.
- Security will be maintained at the site by closing all gates during normal work hours. Site will be locked up in the evening.
- If unauthorized members of the public are found on site, contact RPM immediately and do not leave the individual unattended.
- Visitors are not allowed in the work areas without authorization. Visitors must sign in at the Command Post and receive authorization to enter the site.
- Buddy System
  - The buddy system is mandatory at anytime that personnel are working in the exclusion zone, remote areas, on tanks, or when conditions present a risk to personnel.
  - A buddy system requires at least two trained/experienced people who work as a team and maintain at a minimum audible and/or visual contact while operating in the exclusion zone.
- Communication Procedures
  - Radios may be used for onsite communications and Channel (Repeater) TBD.
  - The crews should remain in constant radio or visual contact while on site.
  - The site evacuation signal will be 3 blasts on the air or vehicle horn.

10.0 DECONTAMINATION PROCEDURES

In general, everything that enters the EZ at this site must either be decontaminated or properly discarded upon exit from the EZ. All personnel, including any state and local officials must enter and exit the EZ through the decon area. Prior to demobilization, contaminated equipment will be decontaminated and inspected before it is moved into the clean zone. Any material that is generated by decontamination procedures will be stored in a designated area in the EZ until disposal arrangements are made.

NOTE: The type of decontamination solution to be used is dependent on the type of chemical hazards. The decontamination solution for this site is water. Decontamination solution will be changed daily (at a minimum) and collected and stored on-site until disposal arrangements are finalized.

10.1 Procedures for Equipment Decontamination

Following decontamination and prior to exit from the EZ, the Project Manager or Foreman shall be responsible for insuring that the item has been sufficiently decontaminated. This inspection shall be included in the site log.

Equipment decontamination will consist of the following steps:

1. Primary method will be remove material by using shovels, brooms, and brushes
2. The material removed will be picked up and placed into proper containers for proper disposal
3. If dry decon is not sufficient the equipment may be rinsed with clean water.

10.2 Procedure for Personnel Decontamination

This decontamination procedure applies to personnel at this site wearing Level D protection. These are the minimum acceptable requirements.

Station 1:	Brush boots clean of debris prior to exiting EZ
Station 2:	Remove work gloves
Station 3:	Wash hands and face
Station 4:	Personnel will not wear or bring dirty/decontaminated clothing into the break areas.

This decontamination procedure applies to personnel at this site wearing Level C protection. These are the minimum acceptable requirements:

Station 1: Equipment Drop: Deposit equipment used on-site (tools, sampling devices and monitoring instruments, radios, etc.) on plastic drop cloths. These items must be decontaminated or discarded as waste prior to removal from the exclusion zone.

Station 2: Outer Boot and Glove Removal: Remove outer boot covers (if applicable) and gloves. If outer boot covers are disposable, deposit in container with plastic liner. If non-disposable items, scrub with water. Rinse off using second water supply, place in cool dry place.

Station 3: Outer Garment Removal: If required, step into containment, mist outer garment with garden sprayer, then roll down, inside out and deposit in container lined with plastic.

Station 5: Respiratory Protection Removal: Remove hard-hat, and face piece (if applicable) and deposit on a clean surface. APR cartridges will be discarded as appropriate. Wash and rinse respirator at least daily. Wipe off and store respiratory gear in a clean, dry location.

Station 6: Inner Glove Removal: Remove inner gloves. Deposit in container for disposal.

Station 7: Field Wash: Thoroughly wash hands and face with wet wipes and/or soap and water. Shower as soon as possible.

Eating, drinking, chewing gum/tobacco, smoking, or any practice that increases the probability of hand to mouth transfer and/or ingestion of materials is prohibited in any areas where the possibility of contamination exists and is permitted only in the designated break area. Personnel will not wear or bring dirty/decontaminated clothing into the break areas.

10.3 Disposition of Decontamination Wastes

1. All equipment and solvents used for decontamination shall be decontaminated or disposed of with the established waste streams.

2. Commercial laundries or cleaning establishments that decontaminate or are used to launder contaminated clothing shall be informed of the presence and potentially harmful effects of the contaminants.

11.0 HAZARD COMMUNICATION PROGRAM

Each contractor will be responsible for maintaining a copy of their Hazardous Communication Program and SDSs on site. The following items are specific to this job site:

11.1 Material Safety Data Sheets

1. Safety Data Sheets will be maintained at the Command Post in the Health and Safety Binder or readily available via the internet.
2. SDS' will be available to all employees for review during the work shift.
3. See Attachment C and/or the ER Health and Safety Binder or on computer.

11.2 Container Labeling

1. All containers received on site will be inspected by the contractor using the material to ensure the following:
    a. all containers clearly labeled
    b. appropriate hazard warning
    c. name and address of the manufacturer

11.3 Employee Training and Information

Prior to starting work, each employee will attend a health and safety orientation and will receive information and training on the following:

a. an overview of the requirements contained in the Hazardous Communication Standard per the new GHS requirements (Globally Harmonized System)
b. hazardous chemicals present at the site
c. the location and availability of the written Haz Com Program
d. physical and health effects of the hazardous chemicals
e. methods of preventing or eliminating exposure
f. emergency procedures to follow if exposed
g. how to read labels and review SDS' to obtain information
h. location of SDS file and location of hazardous chemical list

See ER Health and Safety Binder for Hazard Communication Program and applicable SDS standards.

12.0 EMERGENCIES/INCIDENTS/INJURIES

It is essential that site personnel be prepared in the event of an emergency. Emergencies can take many forms; illnesses or injuries, chemical exposure, fires, explosions, spills, leaks, releases of harmful contaminants, or sudden changes in the weather. The following sections outline the general procedures for emergencies. Emergency information should be posted as appropriate.

12.1 Emergency Contacts for the Standard Products Site

Emergency Call List and Project Organization		
Service	**Name/Organization**	**Emergency Phone**
Fire/Police/Emergency Medical	New Orleans Fire Department	911/ (504) 658-4700
Police	New Orleans Second District Police Station	911 / (504) 658-6020
*Hospital	Touro Emergency Room 1404 Foucher St New Orleans, LA 70115	504-897-7011 24 / 7 / 365 During clinic off hours
* Occupational Medicine Clinic	Prime Occupational Medicine 303 W Judge Perez Dr Chalmette, LA 70043	504-303-4690 M-F 7:30am - 4:30pm
Injury Management	1 Source	866-622-7348 855-517-6872 815-370-2940
Client Representative	Greg Fife	214-665-6773
ER Response Manager	Rafa Aguero	281-844-9197
ER HSO	Rafa Aguero	281-844-9197
ER Project HS Manager	Gary Fanucchi	720-440-3325

*Directions from Site to Hospital: (See Map in Attachment B)

12.2 Additional Emergency Numbers

Poison Control Center	800-222-1222
National Response Center	800-424-8802
Center for Disease Control	404-488-4100 (24 hr)
AT&F (Explosives Information)	800-424-9555
Chemtrec	800-424-9300

Environmental Restoration Contacts

Environmental Restoration	888-814-7477 (24 Hr.)
Environmental Restoration (St. Louis)	636-227-7477

12.3 Emergency Equipment Available On-Site

Communications Equipment	Location
Public Telephones	TBD
Mobile Telephones	PM – Rafa Aguero 281-844-9197
Two-Way Radios	Not Anticipated
Emergency Alarms/Horns	Vehicle Horns / Air Horn
Other:	Not Anticipated

Medical Equipment	Location
First Aid Kits	ER Vehicles / Command Post Office
Eye Wash Bottles/Station: *(within 100 feet of hazard zone)*	ER Vehicles / Command Post Office
Safety Shower	Not Anticipated

Fire Fighting Equipment	Location
Fire Extinguishers	ER Vehicles / Command Post Office/CRZ
Other	Flammables storage area

Spill or Leak Equipment	Location
Absorbent Boom/Pads:	Storage trailers
Dry Absorbent:	Storage trailers

12.4 Incident Reporting/Investigations

- All incidents, including personal injury and property damage, must be reported to the RM, Supervisor, or HSO **immediately**.
- The RM will contact the Project Health and Safety Manager by telephone immediately. The RM, HSO, and effected employee(s) will conduct an immediate investigation of the incident and document all results on the Incident and Investigation Report form.
- The Response Manager will assign a supervisory individual to accompany all injured personnel to the clinic and follow guidelines outlined in the ER Return to Work Program.
- Copies of all Incident and Investigation Reports will be sent to the ER Vice President, Health and Safety.

13.0 EMERGENCY RESPONSE CONTINGENCY PLAN

13.1 Project Personnel Responsibilities during Emergencies

As the administrator of the project, the PM has primary responsibility for responding to and correcting emergency situations. The PM will:

- Take appropriate measures to protect personnel including: withdrawal from the exclusion zone, total evacuation and securing of the site or up-grading or down- grading the level of protective clothing and respiratory protection.
- Take appropriate measures to protect the public and the environment including isolating and securing the site, preventing run-off to surface waters and ending or controlling the emergency to the extent possible.
- Ensure that appropriate Federal, State and local agencies are informed, and emergency response plans are coordinated. In the event of fire or explosion, the local fire department should be summoned immediately. In the event of an air release of toxic materials, the local authorities should be informed in order to assess the need for evacuation. In the event of a spill, sanitary districts and drinking water systems may need to be alerted.

- Ensure that appropriate decon treatment or testing for exposed or injured personnel is obtained.
- Determine the cause of the incident and make recommendations to prevent the recurrence.
- Ensure that all required reports have been prepared.

13.2 Medical Emergencies:

Any person who becomes ill or injured in the exclusion zone must be decontaminated to the maximum extent possible. If the injury or illness is minor, full decontamination should be completed and first aid administered prior to transport. If the patient's condition is serious, at least partial decontamination should be completed (i.e., complete disrobing of the victim and redressing in clean coveralls or wrapping in a blanket.) First aid should be administered while awaiting an ambulance or paramedics. All injuries and illnesses must immediately be reported to the affected employees supervisor and/or HSO. The PM must immediately report incident to the PHSM.

Onsite First Aid Support - Onsite medical support during project execution will be available from two or more individuals who are trained in First Aid and Cardiopulmonary Resuscitation (CPR) and blood borne pathogens.

First aid kits shall be Type III, 16 unit kits, including one pocket mouthpiece or CPR barrier. Kits shall be checked prior to use, and at least weekly when work is in progress to ensure that contents are replaced as used.

Medical Transport of Employees and Case Management - For non-emergency injuries, a local clinic will be identified with the assistance of 1Source, Injury Management. 1Source will be contacted immediately to establish a medical treatment plan prior to transporting the injured worker to the clinic. The 1Source consultant will attempt to contact the clinic ahead of the arrival of the patient to establish oversight of case management. Under no circumstances will an injured employee drive unescorted to a hospital, clinic, etc. An employee with minor injury may be transported by car after first aid treatment is given. The HSO or other project management personnel will transport the injured person to the facility. The employee who transports the injured person shall be trained in first aid and CPR whenever possible. When the injury is severe, or when in doubt concerning the severity of injury, the employee will be transported by ambulance.

Injured employees that require medical treatment or are taken to a doctor, hospital, clinic, etc., will not be allowed to resume work without a written return to work statement from the treating physician. This statement shall supply a medical diagnosis of the problem, the date of return to work, and work limitations. Should a return to work statement such as "light duty" be given, the treating physician will be contacted to determine the specific limitation. ER will make an assessment of work the employee normally performs whether or not the limitation interferes with the employee's normal work.

Whenever there are questions on the appropriateness of the diagnosis or prescribed course of treatment, 1Source, will be contacted to arrange for a second opinion. Copies of all Incident and Investigation Reports will be sent to the ER Corporate Health and Safety Manager.

13.3 Fire or Explosion:

In the event of a fire or explosion, the local fire department should be summoned immediately. Upon their arrival the OSC, RM or designated alternate will advise the fire commander of the location, nature and identification of the hazardous materials on- site.

If it is safe to do so, site personnel may:

- Use firefighting equipment available on site.
- Remove or isolate flammable or other hazardous materials which may contribute to the fire.

13.4 Spills, Leaks or Releases:

In the event of a spill or a leak, site personnel will:

- Locate the source of the spillage and stop the flow if it can be done safely.
- Begin containment and recovery of the spilled materials.

13.5 Evacuation Routes and Resources:

Evacuation routes will be established by work area locations for this site. All buildings and outside work areas shall be provided with two designated exit points. Evacuation shall be conducted immediately, without regard for equipment under conditions of extreme emergency. See site map for evacuation routes.

1. Evacuation notification will be three blasts on an air horn, vehicle horn, or by verbal communication via radio.
2. Keep upwind of smoke, vapors or spill location.
3. Exit through the decontamination corridor if possible.
4. If evacuation is not via the decontamination corridor, site personnel should remove contaminated clothing once they are in a location of safety and leave it near the exclusion zone or in a safe place.
5. The RM will conduct a head count to insure all personnel have been evacuated safely.
6. In the event that emergency site evacuation is necessary, all personnel are to:
   - Escape the emergency situation;
   - Decontaminate to the maximum extent practical; and,
   - Meet at the command post.
7. In the event that the command post is no longer in a safe zone, meet: at the designated upwind location established in the daily safety meeting.

13.6 Severe Weather

The HSO or designated representative will monitor weather reports issued by the local media and the National Weather Service (NWS), and be notified immediately in the event of impending storms. Weather monitoring will be increased when signs of impending storms, including darkening skies, increased wind, heavy rain, or thunder/lightning, are noticed.

[SEQ CHAPTER \h \r 1]The general rule for lightning is "If You See It, Flee It; If You Hear It, Clear It." The flash/bang (f/b) technique may be used to estimate distance to lightning, although using this method requires accurate matching of lightning to thunder, which may not always be possible. The f/b technique is defined as: for each five seconds from the time of observed lightning flash to hearing the associated thunder, the lightning is one mile away. All outside activities will be suspended when a lightning flash is observed in the immediate area, or f/b of 30 seconds (6 miles) or less is noted.

In conjunction with the flash / bang technique, ER will have a lightning meter on site measuring lightning distance and direction of storm movement. Lightning measured within 6 miles with either method will begin work suspension due to lightning.

Personnel may continue indoor work activities except for the use of electrical equipment, telephones, and computers. Upon suspension of site activities, all site personnel will gather in a safe location in the support zone for a head count and further instructions. Activities may resume when 30 minutes have passed since the last observable f/b of 30 seconds or less. If a sudden lightning storm catches personnel in an exposed area, they should seek the lowest possible area, away from large objects which may attract lightning or fall over, and assume a crouching position with head lowered. AREAS TO AVOID INCLUDE WATER, TREES, UTILITY POLES, HIGH GROUND, HEAVY EQUIPMENT, AND ALL TALL, ISOLATED OBJECTS. A person struck by lightning needs immediate, professional medical assistance (contact 911). The body will not carry an electrical charge, so personnel trained in first aid/CPR should assist with treatment for shock and/or burns until professional medical assistance is available

ATTACHMENT A

SITE SAFETY PLAN AMENDMENTS

Site Safety Plan Amendment	
Amendment No.:	
Site Name:	
Date of Issue:	
Type of Amendment:	
Reason for Amendment:	
Alternate Safeguard Procedures:	
Required Changes in PPE:	

_____ _____
USEPA On-Scene Coordinator (Date)

_____ _____
ER Response Manager / HSO (Date)

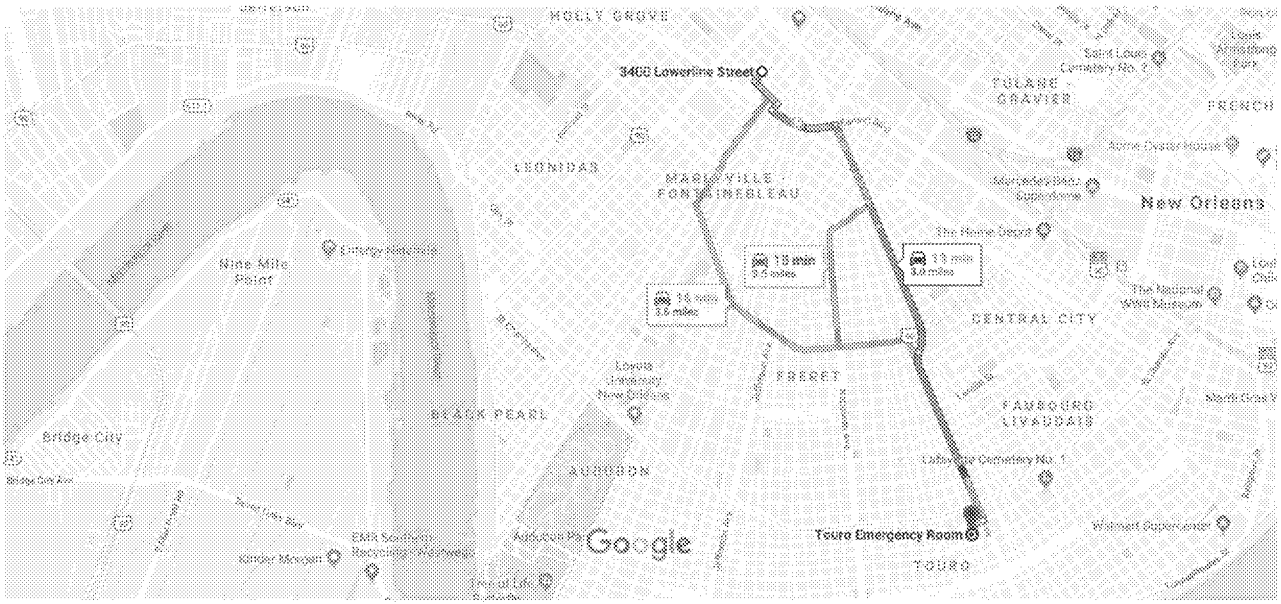
_____ _____
ER Project Health and Safety Manager (Date)

ATTACHMENT B

SITE MAPS

HOSPITAL ROUTE

Google Maps 3400 Lowerline St, New Orleans, LA 70125 to Touro Emergency Room — Drive 3.0 miles, 13 min



3400 Lowerline St
New Orleans, LA 70125

Take Forshey St to Earhart Blvd

1 min (0.3 mi)

1. Head southwest on Lowerline St toward Forshey St

354 ft

2. Turn left at the 1st cross street onto Forshey St

0.2 mi

3. Turn right at the 3rd cross street onto Audubon St

223 ft

Take Toledano St and Louisiana Ave to Prytania St

9 min (2.6 mi)

4. Turn left at the 1st cross street onto Earhart Blvd

0.4 mi

5. Turn right onto Washington Ave

0.6 mi

6. Continue onto Toledano St

0.7 mi

7. Continue onto Louisiana Ave

1.0 mi

Continue on Prytania St. Drive to Delachaise St

1 min (0.1 mi)

8. Turn right onto Prytania St

374 ft

9. Turn left onto Delachaise St
   Destination will be on the right

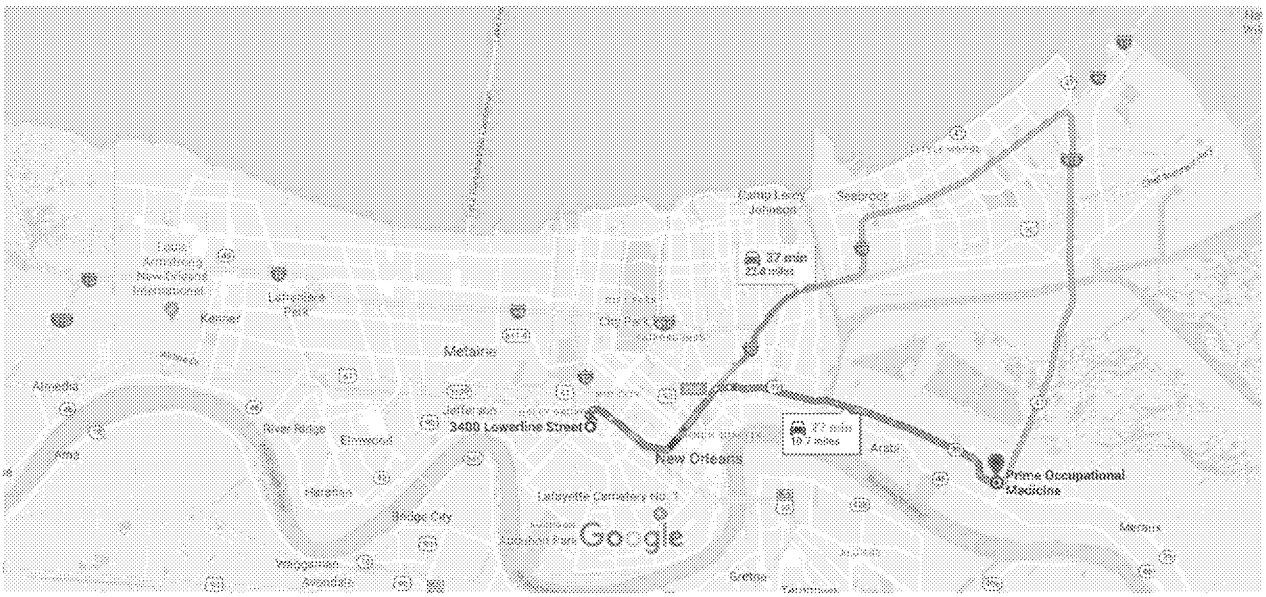
243 ft

Touro Emergency Room

1401 Foucher St, New Orleans, LA 70115

OCUPATIONAL CLINIC ROUTE

Google Maps 3400 Lowerline St, New Orleans, LA 70125 to Prime Occupational Medicine Drive 10.7 miles, 27 min



3400 Lowerline St

New Orleans, LA 70125

Take Palm St to S Carrollton Ave

2 min (0.3 mi)

1. Head northeast on Lowerline St toward Coolidge Ct

0.1 mi

2. Turn left onto Palm St

0.2 mi

Take I-10 E and LA-39 S to W Judge Perez Dr in Chalmette

21 min (10.4 mi)

3. Turn right at the 2nd cross street onto S Carrollton Ave

0.2 mi

4. Use the right 2 lanes to take the I-10 E ramp to Slidell

0.4 mi

5. Keep left and merge onto I-10 E

0.7 mi

6. Keep right at the fork to stay on I-10 E, follow signs for Slidell

2.4 mi

7. Take exit 236B for LA-39/N Claiborne Ave

0.3 mi

8. Continue onto LA-39 S/N Claiborne Ave
   - Continue to follow LA-39 S
   - Pass by KFC (on the right in 5.2 mi)

6.3 mi

9. Turn right onto Delille St

167 ft

10. Turn left at the 1st cross street onto Oak Pl

344 ft

11. Turn left at the 1st cross street onto Fenelon St

171 ft

12. Turn left at the 1st cross street onto W Judge Perez Dr
    - Destination will be on the right

144 ft

Prime Occupational Medicine

303 W Judge Perez Dr, Chalmette, LA 70043

Top of Form

ATTACHMENT C

CHEMICAL INVENTORY

Gasoline
Diesel Fuel
Lubricating Grease
Motor Oil
Hand Sanitizer

ATTACHMENT D

ACTIVITY HAZARDOUS ANALYSIS

Activity Hazard Analysis		
Job Task:	**Line Roll Off Boxes with poly**	
Personal Protective Equipment:	**Level D**	
Hazard	**Sources**	**Control Measures**
Fall from heights	Use of ladders	Use per manufacturer instructions Properly inspect and maintain equipment Secure ladder
Ergonomics	Lifting, bending, and climbing	Follow HS-36 Proper Lifting Techniques Use Buddy system Use mechanical means when feasible
Traffic	Working near Rail lines Driving motor vehicles	Follow HS-10 Motor Vehicle Operation Follow HS-30 Traffic Control Safety Adjust controls/mirrors prior to operation Utilized defensive driving techniques Lock out rail track/ Blue flag Have flagger during working hr
Public Exposure	Local Personnel	Control work areas Communication
Heat Stress	Use of protective coveralls Weather Temperatures	Follow HS-17 Heat Stress SOP Schedule proper breaks Maintain communication/observation of co-worker Cool break area Proper hydration
Noise	Heavy Equipment	Hearing protection for levels > 85 dBs Hearing protection required when operating open-cab equipment Hearing protection required when working near equipment
Cuts/Punctures	Sharp Objects	Beware of sharp objects Wear cut resistant gloves
Slip/Trip/Fall	Uneven terrain/debris Excavations	Identify/mark hazards Remove debris from walking / working surfaces Cover/fill in holes Mow tall grass if feasible Mark excavations
Struck by/against	Skidsteer / Excavator/Trucks	Follow HS-18 Heavy Equipment Operation Only qualified drivers permitted to operate vehicles Wear ANSI Type 2 high-visibility safety vest Wear seat belts while in operation Back up alarms functional and loud enough to hear over surroundings

Activity Hazard Analysis		
Job Task:	**Pavement Cutting**	
Personal Protective Equipment:	**Level C**	
Hazard	**Sources**	**Control Measures**
Exposure to site contaminants	Radium-226 contaminated materials	Keep material moist at all times Utilize saw with water attachments to keep cutting area wet Use water spray for dust suppression Controlled work area Utilize PPE per Section 6.0 of this HASP Decon per section 10
Struck by	Flying debris	Control work area to authorized personnel only Utilize respirator eye protectiong from debris Keep all personnel away from the front and back of blade to prevent flying debris from striking co-worker
Ergonomics	Lifting, bending, and climbing	Follow HS-36 Proper Lifting Techniques Use Buddy system Use mechanical means when feasible
Traffic	Driving motor vehicles	Follow HS-10 Motor Vehicle Operation Follow HS-30 Traffic Control Safety Adjust controls/mirrors prior to operation Utilized defensive driving techniques Lock out rail track/ Blue flag Have flaggers and spotters when required
Public Exposure	Local Personnel	Control work areas Communication
Heat Stress	Use of protective coveralls Weather Temperatures	Follow HS-17 Heat Stress SOP Schedule proper breaks Maintain communication/observation of co-worker Cool break area Proper hydration
Noise	Heavy Equipment	Hearing protection for levels > 85 dBs Hearing protection required when operating open-cab equipment Hearing protection required when working near equipment
Cuts/Punctures	Sharp Objects	Beware of sharp objects Wear cut resistant gloves Proper use of saw, keep all garments, body parts away from blade
Slip/Trip/Fall	Uneven terrain/debris Excavations	Identify/mark hazards Remove debris from walking / working surfaces Cover/fill in holes Mow tall grass if feasible Mark excavations
Struck by/against	Skidsteer / Excavator/Trucks	Follow HS-18 Heavy Equipment Operation Only qualified drivers permitted to operate vehicles Utilize spotters for blindspots Wear ANSI Class 2 high-visibility safety vest Wear seat belts while in operation Back up alarms functional and loud enough to hear over surroundings

Activity Hazard Analysis		
Job Task:	**Excavation of Impacted Soils**	
Personal Protective Equipment:	**Level C**	
Hazard	**Sources**	**Control Measures**
Exposure to site contaminants	Radium-226 contaminated materials	Keep material moist at all times Use water spray for dust suppression Controlled work area Utilize PPE per Section 6.0 of this HASP Decon per section 10
Ergonomics	Using shovel Lifting and bending	Follow HS-36 Proper Lifting Techniques Use Buddy system Use mechanical means when feasible
Traffic / Railroad related injury	Working near Rail lines Driving motor vehicles	Follow HS-10 Motor Vehicle Operation Follow HS-30 Traffic Control Safety Adjust controls/mirrors prior to operation Utilized defensive driving techniques Lock out rail track/ Blue flag Have flagger during working hr
Public Exposure	Local Personnel	Control work areas Communication Fence Barriers Signage
Heat Stress	Use of protective coveralls Weather Temperatures	Follow HS-17 Heat Stress SOP Schedule proper breaks Maintain communication/observation of co-worker Cool break area Proper hydration
Skin reactions	Poisonous Plants	Survey work crew for past reactions and assign accordingly Survey area and identify sources Beware of and avoid contact Eliminate plant if possible
Noise	Heavy Equipment	Hearing protection for levels > 85 dBs Hearing protection required when operating open-cab equipment Hearing protection required when working near equipment
Cuts/Punctures	Sharp Objects	Beware of sharp objects Wear cut resistant gloves
Slip/Trip/Fall	Uneven terrain/debris Excavations	Identify/mark hazards Remove debris from walking / working surfaces Cover/fill in holes Mow tall grass if feasible Mark excavations
Struck by/against	Skidsteer / Excavator/Trucks	Follow HS-18 Heavy Equipment Operation Only qualified drivers permitted to operate vehicles Wear ANSI Class 2 high-visibility safety vest Wear seat belts while in operation Back up alarms functional and loud enough to hear over surroundings

Activity Hazard Analysis		
Job Task:	**Load Out Of Impacted Soils**	
Personal Protective Equipment:	**Level C/Modified Level D w/air monitoring justification**	
Hazard	**Sources**	**Control Measures**
Exposure to site contaminants	Radium-226 contaminated materials	Keep material moist at all times Use water spray for dust suppression Controlled work area Utilize PPE per Section 6.0 of this HASP
Traffic	Driving motor vehicles	Follow HS-10 Motor Vehicle Operation Follow HS-30 Traffic Control Safety Adjust controls/mirrors prior to operation Utilized defensive driving techniques Lock out rail track/ Blue flag Have flaggers and spotters in blind spot areas
Heat Stress	Use of protective coveralls Weather Temperatures	Follow HS-17 Heat Stress SOP Schedule proper breaks Maintain communication/observation of co-worker Cool break area Proper hydration
Slip/Trip/Fall	Uneven terrain/debris Excavations	Identify/mark hazards Remove debris from walking / working surfaces Cover/fill in holes Mow tall grass if feasible Mark excavations
Ergonomics	Using shovel Lifting and bending	Follow HS-36 Proper Lifting Techniques Use Buddy system Use mechanical means when feasible
Struck by/against	Skidsteer / Excavator/Trucks	Follow HS-18 Heavy Equipment Operation Only qualified drivers permitted to operate vehicles Wear ANSI Type 2 high-visibility safety vest Wear seat belts while in operation Back up alarms functional and loud enough to hear over surroundings
Noise	Heavy Equipment	Hearing protection for levels > 85 dBs Hearing protection required when operating open-cab equipment Hearing protection required when working near equipment
Public Exposure	Local Personnel	Control work areas Communication Barrier Fencing Signage
Cuts/Punctures	Sharp Objects	Beware of sharp objects Wear cut resistant gloves

Activity Hazard Analysis		
Job Task:	**Backfill, Restoration, Secure Site**	
Personal Protective Equipment:	**Level D**	
Hazard	**Sources**	**Control Measures**
Traffic related injury	Working near roadways Driving motor vehicles	Follow HS-10 Motor Vehicle Operation Follow HS-30 Traffic Control Safety Adjust controls/mirrors prior to operation Utilized defensive driving techniques Lock out rail track/ Blue flag Have flagger during working hr
Heat Stress	Weather Temperatures	Follow HS-17 Heat Stress SOP Schedule proper breaks Maintain communication/observation of co-worker Cool break area Proper hydration
Ergonomics	Lifting and bending	Follow HS-36 Proper Lifting Techniques Use Buddy system Use mechanical means when feasible
Struck by/against	Skidsteer / Excavator/Trucks	Follow HS-18 Heavy Equipment Operation Only qualified drivers permitted to operate vehicles Wear ANSI Type 2 high-visibility safety vest Wear seat belts while in operation Back up alarms functional and loud enough to hear over surroundings
Skin reactions	Poisonous Plants	Survey work crew for past reactions and assign accordingly Survey area and identify sources Beware of and avoid contact Eliminate plant if possible
Noise	Heavy Equipment	Hearing protection for levels > 85 dBs Hearing protection required when operating open-cab equipment Hearing protection required when working near equipment
Public Exposure	Local Personnel	Control work areas Communication Fencing Signage
Cuts/Punctures	Sharp Objects	Beware of sharp objects Wear cut resistant gloves
Slip/Trip/Fall	Uneven terrain/debris Excavations	Identify/mark hazards Remove debris from walking / working surfaces Cover/fill in holes Mow tall grass if feasible Mark excavations

ATTACHMENT E

RADIATION SAFETY

[PRIVATE][seq level0 \h \r0][seq level1 \h \r0][seq level2 \h \r0][seq level3 \h \r0][seq level4 \h \r0][seq level5 \h \r0][seq level6 \h \r0][seq level7 \h \r0][seq level0 \r1 *arabic].0 PURPOSE[tc \l 1 " seq level0 \h \r0 seq level1 \h \r0 seq level2 \h \r0 seq level3 \h \r0 seq level4 \h \r0 seq level5 \h \r0 seq level6 \h \r0 seq level7 \h \r0 seq level0 \r1 *arabic .0 PURPOSE"]

This procedure defines minimum requirements for safe handling of tools, low level radioactive soils, and materials by employees of Environmental Restoration LLC (ER).

[PRIVATE][seq level0 \r2 *arabic].0 SCOPE[tc \l 1 " seq level0 \r2 *arabic .0 SCOPE"]

This program applies to all activities involving excavation, handling, transport or storage of radioactive material and tools. ER tools will only be handled, transported or stored by properly trained ER employees equipped with personal radiation dosimeters where prescribed. Contractors and visitors are prohibited from any contact with these devices. This document also covers ER employees working around material/soil/mine waste material, emitting radioactive particles, such as NORM, Uranium, Radium 226, and decay products from industrial or mining operations.

[PRIVATE][seq level0 \r3 *arabic].0 RESPONSIBILITIES[tc \l 1 " seq level0 \r3 *arabic .0 RESPONSIBILITIES"]

[PRIVATE][seq level0 \c *arabic].[seq level1 \r1 *arabic] Radiation Safety Officer[tc \l 2 " seq level0 \c *arabic . seq level1 \r1 *arabic Radiation Safety Officer"]

- The designated Radiation Safety Officer (RSO) is responsible for the following activities;
- Verifying compliance with 10 CFR parts 19, 20, 30, and 71; and U.S. Department of Transportation regulations.
- Verifying that only properly trained and equipped employees handle, transport or store radioactive materials or tools that either contain sources or when energized may emit particles (e.g. XRF).
- Verifying that nuclear gauge users wear personal radiation dosimeters.
- Assuring written documentation of radiation monitoring.
- Serving as an emergency contact and assuring appropriate regulatory agency notifications in the event of an emergency.

[PRIVATE][seq level0 \r4 *arabic][seq level1 \h \r0].0 TRAINING[tc \l 1 " seq level0 \r4 *arabic seq level1 \h \r0 .0 TRAINING"]

[PRIVATE][seq level0 \c *arabic].[seq level1 \r1 *arabic] Initial[tc \l 2 " seq level0 \c *arabic . seq level1 \r1 *arabic Initial"]

Employees must successfully complete radiation awareness. Specialized training is required when working with specific levels, sources or tools. Training must cover at least the following elements:

- Radiation physics
- Radiation safety and exposure monitoring procedures,
- Regulatory requirements,

In addition, each tool user must receive copies of and be trained in appropriate ER operating and emergency procedures.

[PRIVATE][seq level0 \c *arabic].[seq level1 \r2 *arabic] Annual Refresher[tc \l 2 " seq level0 \c *arabic . seq level1 \r2 *arabic Annual Refresher"]

Radioactive material workers must complete annual refresher training that covers operating and emergency

procedures, Changes in applicable regulations and license conditions, and any deficiencies that are identified in annual radiation safety audits.

[PRIVATE][seq level0 \c *arabic].[seq level1 \r3 *arabic] Training Records[tc \l 2 " seq level0 \c *arabic . seq level1 \r3 *arabic Training Records"]

Documentation of current training for radiation awareness or radiation worker is required prior to beginning work onsite. The nuclear density gauge, and XRF tools require tool specific training. Training records will be maintained for a minimum of three years after the termination of the individual's employment with ER.

[PRIVATE][seq level0 \r5 *arabic][seq level1 \h \r0].0 PERSONNEL MONITORING[tc \l 1 " seq level0 \r5 *arabic seq level1 \h \r0 .0 PERSONNEL MONITORING"]

5.1 Film badges or thermo luminescent dosimeters (TLDs) will be issued as necessary while using, handling, or transporting devices or excavated materials. Badges and TLDs must be worn above the waist and outside of any coveralls or other protective clothing.

Users will contact the RSO to obtain badges or dosimeters prior to starting projects which may have radioactive material exposures. Badges and dosimeters will be analyzed at least monthly, with results available to assigned workers as soon as they are available.

Atomic Energy Industrial Laboratory is the current supplier/analyzer of ER badges and dosimeters. They can be contacted at (713)790-9719. Changes in the badge or dosimeter supplier must be approved in advance by the RSO.

Records of radiation exposure monitoring will be filed in the ER associate's medical file. Workers terminating their employment with ER will be offered copies of their radiation exposure monitoring records.

5.2 Direct read instrument monitoring for excavation of known sources will be used to screen exclusion zone workers as they exit the contamination reduction zone. The use of a Ludlum Model 3 or the like, which is an activity counter, to screen for radioactive dust particles (alpha, beta, and gamma). Persons showing an elevated count will be sent back through the Contamination Reduction Zone (CRZ).

5.3 Exposure Limits and Monitoring
Personnel exposures will be limited to 5 rems annually and 1.25 rems quarterly. Exposure monitoring will be accomplished using thermo-luminescent dosimeters (TLD). The exposure monitoring program will be accomplished in accordance with the following:

[PRIVATE][seq level0 \r6 *arabic].0 RADIATION DETECTION INSTRUMENTS[tc \l 1 " seq level0 \r6 *arabic .0 RADIATION DETECTION INSTRUMENTS"]

The radiation detection instruments must be calibrated annually or as the manufacturer guidelines require. Field calibration checks will be performed at least once each work shift prior to using the radiation detector or according to manufacturer guidelines. If the radiation detector fails to respond properly to field checks, it will be immediately tagged as out-of-service and replaced with a properly functioning instrument.

ATTACHMENT Z

SITE-SPECIFIC TRAINING RECORD

SITE-SPECIFIC TRAINING RECORD

This is to advise that Rafa Aguero / Gary Fanucchi conducted a Site-Specific Training Course
(Instructor's name)

for Environmental Restoration at the
(Company Name)

Lowerline Removal project on _____.
(TO #, Project Name) *(Date)*

The total duration of the instructions was_____hours.

Instruction covered the topics checked off below:

- Site Location, Description and History [FORMCHECKBOX]
- Potential site hazards (chemical, physical, and biological) [FORMCHECKBOX]
- Chemical, physical, and toxicological properties of site contaminants [FORMCHECKBOX]
- Safe work practices [FORMCHECKBOX]
- Training requirements [FORMCHECKBOX]
- Medical Surveillance [FORMCHECKBOX]
- Control Zones [FORMCHECKBOX]
- Monitoring [FORMCHECKBOX]
- Selection, use, and limitation, of personal protective equipment [FORMCHECKBOX]
- Personnel and equipment decontamination [FORMCHECKBOX]
- Emergency response procedures [FORMCHECKBOX]

- Hazard communication [FORMCHECKBOX]
- Blood borne pathogen briefing [FORMCHECKBOX]

The following participant attended the training course for the full duration indicated above.

_____ _____

Name (Print) *Signature*